

# 低頻超音波於米酒熟成之研究

## The Effects of Low Power Level of Ultrasonic Waves of Rice Wine Maturation

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(Received July 29, 2003; Revised October 3, 2003; Accepted December 16, 2003)

**摘要：**本試驗主要探討低頻超音波處理於米酒熟成之研究。米酒釀製所用之菌種為清酒酵母菌(*Saccharomyces sake*)。米酒釀製後以傳統瓦甕一年儲放及低頻超音波處理二種方式加以熟成，並分別在酒精度、pH 值、揮發性香氣成份之氣相層析及品評上做分析比較研究。結果顯示，經低頻超音波處理至某一層次後之米酒，在熟成風味上與傳統瓦甕式一年儲放的熟成酒可堪比擬至近似程度，但卻可節省大約一年的時間，值得推廣應用。本研究只試驗於單一低頻之超音波，因此建議宜再探討各種不同頻率之超音波對不同酒類的組合，研究其熟成風味上之差異性。

**關鍵詞：**風味、米酒、超音波、氣相層析、熟成

**Abstract:** Rice wine was fermented with *Saccharomyces sake*. One type of methods of rice wine maturation was matured for one year in fired clay containers (standard maturation method) and another type of methods of rice wine maturation was matured with a new ultrasonic waves process of low power level (accelerated maturation method). Comparisons were made on alcohol content, pH value, gas chromatography measurements, sensory evaluation, and the time of maturation.

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Our results showed that the low power level ultrasonic waves maturation treatment was capable of maturing rice wine to a similar quality of taste as the conventional method of maturation in a much shorter period of time. However, further study is needed to learn more on applying various ultrasonic waves to age wines made of various materials.

**Key words:** Flavor, Rice Wine, Ultrasonic Waves, Gas Chromatography, Maturation

# 油菜種子中胰蛋白酶抑制劑之純化 及特性分析

## Purification and Characterization of a Trypsin Inhibitor from *Brassica Campestris* Seeds

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(Received June 29, 2003; Revised November 3, 2003; Accepted December 16, 2003)

**摘要：**許多研究報告，癌細胞之產生、侵襲、轉移與蛋白酶抑制劑有很大的關係，當外加蛋白酶抑制劑或誘發內生性蛋白酶抑制劑可以改善這些現象，故尋找及利用蛋白酶抑制劑是極具研究意義。在本研究中，我們由油菜(*Brassica campestris*)種子純化出一種胰蛋白酶抑制劑 (*Brassica campestris* trypsin inhibitor, BCTI)，並做了一般性質之探討，純化的過程是利用硫酸銨分割，經透析及活性分析，得知其活性介於硫酸銨分割20-50% 之間，接著將樣品通過DE-52 cellulose陰離子交換樹脂及trypsin-Sepharose 4B親和性管柱，所純化出之BCTI以SDS-PAGE分析，得知其分子量約8 kDa，是屬於Bowman-Birk 型蛋白酶抑制劑。進一步對此蛋白的性質研究，發現此蛋白對熱及變性劑(SDS)具有非常高的耐受性，90°C 反應10分鐘，仍具有50%的活性；在0.5% SDS作用10分鐘，尚有40%的活性。還原劑DTT處理BCTI

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後，其抑制胰蛋白酶的活性喪失，故BCTI結構的穩定與雙硫鍵的存在有明顯的相關性。

**關鍵詞：**Bowman-Birk 型蛋白酶抑制劑、胰蛋白酶抑制劑、油菜

**縮寫：**BCTI, *Brassica campestris* trypsin inhibitor ; BAPNA ,  
(N-benzoyl-DL-arginyl-p-nitroanilide) ; SDS-PAGE , sodium dodecyl sulfate-polyacrylamide gel electrophoresis.

**Abstract:** A trypsin inhibitor (BCTI) was purified from seeds of *Brassica campestris* by 20-50% ammonium sulfate precipitation, DE-52 ion-exchange column and trypsin-Sepharose 4B affinity chromatography. A molecular weight of 8 kDa was estimated by SDS-PAGE. The BCTI was found to be a thermostable Bowman-Birk type TI that inhibits trypsin at molar ratio 1:1. The stability of BCTI was studied by exposing it to altered conditions of temperature and protein-denaturing agents like SDS, and measuring the residual inhibitor activity. The inhibitory activity retained at least 50 % activity after being heated to 90°C for 10 min. Similarly, it retained 40% activity after treatment with 0.5% SDS for 10 min. DTT had effect on the activity or stability of BCTI. The stability of BCTI is apparently related to the presence of disulfide bridge.

**Key words:** *Brassica campestris* trypsin inhibitor, BCTI, Bowman-Birk type TI

# 門診糖尿病患者之因應能力對 血糖控制之影響

## Effects of Coping Ability on the Glycemic Control in Outpatients with Diabetes Mellitus

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(Received August 22, 2003; Revised October 15, 2003; Accepted December 21, 2003)

**摘 要：**本研究目的為探討糖尿病患者之因應能力對血糖控制之影響。研究係採方便取樣，對象以北市某教學醫院門診糖尿病患者共 190 人，採結構式問卷，結果顯示：研究樣本的糖化血色素平均值為 8.59%，血糖控制有 75 人(39.9%)屬於控制良好或良。糖尿病患者個人因應能力得分為 145.61，因應能力屬中等，因應能力得分較高者其血糖控制較好。與因應能力及糖化血色素有關之個人因素為年齡、與家人同住、治療方式。本研究結果可作為糖尿病衛生教育介入及相關研究之參考。

**關鍵詞：**糖尿病、因應能力、血糖控制

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**Abstract:** The purpose of this study was to identify the effects of coping ability, which related to outpatients diagnosed with glycemic control of diabetes mellitus. The research subjects based on convenience sampling with that there are 190 adult patients with diabetic mellitus at the outpatient of general hospital in Taipei. It was investigated with structured questionnaires. The results indicated: (1) the mean value for HbA1C was 8.59% from this study group; 39.9% of patients maintain to moderate or well glycemic control; (2) the mean value for scale of coherence (SOC) was 145.61 in 190 clients. The outcome should their coping ability belong to moderate. Moreover, there was a positive correlation between SOC and HbA1C. (3) This 190 clients' Ageing, living with family and treatment types of DM was variable significantly associated with coping ability and glycemic control. The results of this study could be used as a reference for diabetes health education program.

**Key words:** Diabetes mellitus, Coping ability, Glycemic control

言

# 剖腹產後自然生產課程對護理系 學生之成效探討

## The Effects of VBAC Program for Nursing Students

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(Received June 10, 2003; Revised November 3, 2003; Accepted December 9, 2003)

**摘要：**台灣的剖腹產率 2001 年高達 32.74%，面對這麼高的剖腹產比率，無論就婦女健康而言或者是醫療資源浪費的觀點來看，都必須加以正視的。而推廣剖腹產後自然生產可以降低剖腹產率。由於國內產科護理學課程中並未介紹剖腹產後自然生產，導致護理系學生對剖腹產後自然生產知識仍是十分缺乏。本研究目的在探討剖腹產後自然生產課程對護理系學生知識及態度的影響。採準實驗性研究設計法，於新竹市某科學技術學院以方便取樣方式收案，一班為實驗組，一班為對照組。收案日實驗組及對照組同時填寫前測問卷，兩週後實驗組提供 90 分鐘的剖腹產後自然生產課程，對照組則不提供任何課程，並於當天實施實驗組及對照組後測問卷，共計回收有效問卷 60 份。研究資料以 SPSS for Windows 10.0 套裝軟體進行描述性及推論性統計分析與檢定。研究發現，實驗組介入剖腹產後自然生產課程之後，在剖腹產後自然生產的知識及態度皆有顯著差異 ( $P < 0.01$ )，亦即剖腹產後自然生產教育課程對護理系學生之剖腹產後自然生產知識及態度有提昇效果，故建議將剖腹產後自然生產課程納入產科護理學教學中，藉以提升護理系學生對剖腹產後自然生產的相關知識與態度。

**關鍵詞：**剖腹產後自然生產、剖腹產後自然生產之課程、剖腹產後自然生產的知識、剖腹產

後自然生產的態度

**Abstract:** The rate of Caesarian Section in Taiwan is as high as 32.74% in 2001. It should be confronted no matter from the viewpoints of either the medical treatment waste of resources or women health. And to promote VBAC (Vaginal Birth after C-Section, abbreviated as VBAC) could apparently reduce the Caesarian Section rate. Because no introductions about VBAC in the obstetrics nursing curriculum in Taiwan, it results in the lack of VBAC knowledge of the students of nursing department. The purposes of this study were to evaluate the effects of the VBAC program on the students of nursing department. Adopting quasi-experimental research design, this study was carried out by convenient sampling, one class for experimental group and another class for control group, in the local University of Science and Technology in Hsin-Chu city. Data were collected through questionnaires. The experimental group and the control group were assessed by the pre-test questionnaires in the same time. After two weeks, the experimental group received a 90-minutes VBAC program, while the control group didn't. These two groups were assessed by the post-test questionnaires after the VBAC program. And 60 effective questionnaires were returned. The data were analyzed by the descriptive and inferential statistics of SPSS 10.0 for Windows. Major findings included: the VBAC program can significantly increase the experimental group students' knowledge and attitude ( $P < 0.01$ ). Therefore we suggest to bring the VBAC program into the obstetrics nursing curriculum in order to promote the related knowledge and attitude to the VBAC of nursing department students.

**Key words:** VBAC, VBAC program, Knowledge of VBAC, Attitude of VBAC

言

# 台灣地區外科醫師人力供需之研究— 灰色預測模式之應用

## A Study of the Supply and Demand of Surgeons Manpower in Taiwan-An Application of Grey Prediction Model

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(Received July 22, 2003; Revised September 16, 2003; Accepted December 10, 2003)

**摘要：**本文以灰色預測GM(1,1)模式，預測台灣地區民國89至93年外科醫師總供給人數與總需求人數。本文研究結果顯示，民國90至93年台灣地區外科醫師人力是供過於求。本文結果可提供政府相關單位擬定台灣地區外科醫師人力政策之參考。

**關鍵詞：**灰色理論、灰色預測模式、人力預測、人力資源規劃

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**Abstract:** This study used the GM (1,1) model of grey prediction to forecast annual supply and demand of surgeons from 2001 to 2004 in Taiwan. The results of the study indicated that the supply exceeds the demand in surgeons. The authorities concerned may use these results as references to determine the physician manpower policy in Taiwan.

**Key words:** Grey theory, Grey prediction model, Manpower forecasting, Human resource planning

# 五四後梁啟超的古典詩歌研究初探

## Firth Research Ideal and Practice of Classical Poetics by Chi-Chao Liang after Fourth Day in May

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(Received January 26, 2003; Revised April 10, 2003; Accepted July 19, 2003)

**摘要：**梁啟超博大的學術成就中，古典詩歌研究部分甚為重要，卻較少引起學界注意。梁啟超的古典詩歌研究的成就在於標舉「美文」的價值，並以「情感說」為核心；他認為真摯的情感，是文學作品感人的主要條件。因此，他在五四後進行的古典詩歌研究多以此為準的。本文即針對其晚年（五四以後）致力於古典詩歌研究的成果進行探索。

**關鍵詞：**梁啟超、五四、古典詩學、詩學、文學理論

**Abstract :** Classical poetics, in its extended meanings equals to literature, is an important part of great achievement in Chi-Chao Liang. But few people researched it. Announces of values of “beautiful composition” were the contributions of his classical poetics. “View of feeling” was its core. He asserted that sincere feeling was the principal condition of affecting writings of literature. The paper aimed at achievements of classical poetics in which he devoted in his old ages.

**Key words :** Chi-Chao Liang, Fourth day in May, classical poetics, poetics, theory of literature